UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,910	10/11/2001	Tsai Chu-Chia	ACR0051-US	7467

28970 7590 02/23/2004

SHAW PITTMAN
IP GROUP
1650 TYSONS BOULEVARD
SUITE 1300
MCLEAN, VA 22102

EXAMINER	
EDWARDS, ANTHONY Q	
ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/973,910	CHU-CHIA, TSAI	
	Examiner	Art Unit	
	Anthony Q. Edwards	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-21,23-28 and 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-21, 23-28 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17-21, 23-28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,397,189 to Minogue in view of U.S. Patent No. 5,957,595 to Chen, and further in view of U.S. Patent No. 6,212,066 to Fetterman. Referring to claims 17-19 and 21, Minogue discloses an ergonomic keyboard comprising, a base (10) and a plurality of keys, arranged in accordance with the "QWERTY" standard, located evenly on the base about a center line of the base and further arranged to form a plurality of parallel arc key rows having a same concentric center lying at the center line, wherein the concentric center is located at a side opposing to a user of the keyboard. See FIGS. 1, 2, 9 and 10 of Minogue.

Minogue does not specifically disclose a plurality of non-standard function keys, arranged in a group, located at an upper edge of the base away from the "standard" keys, wherein the non-standard function keys (i.e., "hot keys") are used to macro a plurality of serial typing operations for reducing the typing of keys.

Chen teaches a multimedia keyboard (10) with "QWERTY" keys (14) in a main typing area, including a plurality of standard function keys (not numbered) and non-standard function keys (15). The non-standard function keys, i.e., "hot keys," are located at an upper edge of the keyboard, away from the main typing area with "QWERTY" keys. See FIGS. 4-7 and the

corresponding specification. As is well known in the art, both standard and "non-standard" function keys are used to "macro" a plurality of serial typing operations to reduce or eliminate keystrokes while using a keyboard.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ergonomic "QWERTY" keyboard of Minogue to include standard and non-standard function keys at an upper edge of the base, as taught by Chen, to provide "hot keys" for executing predetermined software commands without having to type the commands into the computer system and to thereby reduce the number of key strokes by a computer user.

Likewise, Minoque does not specifically disclose the keyboard including a pair of fasteners for fixing the keyboard to a computer unit. It is noted, however, that the ergonomic keyboard arrangement of Minogue can be applied to "any type of keyboard," which would include removable keyboards for portable computers (See column 3, lines 47-50 of Minogue). Fetterman discloses a portable computer (200) with removable keyboard (300) having a pair of fasteners, i.e., latches (302) for fixing the keyboard (300) to a computer unit (200). See FIGS. 2 and 3A and column 6, lines 14-17.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the ergonomic keyboard arrangement of Minogue to include a pair of fasteners, as taught by Fetterman since removably attaching the ergonomic keyboard of Minogue, as modified, to a computer would allow easy access to internal components of the computer via an opening therein.

Referring to claim 20, Minogue in view of Chen, and further in view of Fetterman disclose an ergonomic keyboard, wherein the arc key rows are equal-spaced arranged. See FIGS. 1, 2, 9 and 10 of Minogue.

Referring to claims 23-25 and 28, Minogue in view of Chen, and further in view of Fetterman disclose the notebook computer as claimed, including the ergonomic keyboard fixed on a notebook computer having a computer unit for storage and processing digital data, and a display for displaying the digital data. See Fig. 2 of Fetterman.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the ergonomic keyboard of Minogue to be fixed on the notebook computer of Fetterman, since the keyboard of Minogue could reduce the risk of carpal tunal syndrome.

Referring to claim 26, Minogue, as modified, in view of Fetterman, disclose a notebook computer as claimed, except that each of the letter keys and the numeral keys has a size 0.85-0.98 times of a key of a keyboard for a desktop computer. It is notoriously old and well known in the art of notebook computers to reduce the size of the keys by 0.85-0.98 times that of keys used in a desktop computer for portability and compactness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the size of the letter keys and numeral keys on the keyboard of Minogue, since reducing the size of the keys allows for portability and reduced surface area for the notebook computer.

Referring to claim 27, Minogue, as modified, in view of Fetterman, disclose a notebook computer as claimed, except that each of the standard function keys has a size 0.6-0.8 times of a key of a keyboard for a desktop computer. It is notoriously old and well known in the art of

notebook computers to reduce the size of the standard function keys by 0.6-0.8 times that of standard function keys used in a desktop computer for portability and compactness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the size of the standard function keys on the keyboard of Minogue, since reducing the size of the keys allows for portability and reduced surface area for the notebook computer.

Referring to claim 30, Minogue, as modified, in view of Fetterman, disclose a notebook computer with ergonomic keyboard, wherein the arc key rows are equal-spaced arranged. See FIGS. 1, 2, 9 and 10 of Minogue.

Response to Arguments

The applicant's comments regarding the incorrect prior art reference in the previous Office Action is noted with appreciation. The correct reference is used in the present Office Action.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Minogue teaches an ergonomic keyboard arrangement that can be applied to "any type of keyboard," which would include removable keyboards for portable computers (see column 3, lines 47-50 of Minogue).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Q. Edwards whose telephone number is 571-272-2042. The examiner can normally be reached on M-F (7:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 4, 2004
aqe

DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800